The Paleolithic Diet

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What is the Paleolithic Diet?

The Paleolithic diet is reflective of the traditional eating patterns of nomadic humans some 40,000 years ago, exemplified in modern times by the traditional eating patterns of the First Nations people of Canada, as well as the Aborigines of Australia. Early human societies were centered around a hunter-gatherer lifestyle, following the seasonal migrations of large herds of mammals, the spawning of fish, and gathering a large variety of wild vegetables, seeds and fruits. The renewed interest in the Paleolithic diet is based upon several factors. The first relates to recent archeological evidence that our ancient ancestors experienced a high degree of health, with body structures similar to that of modern athletes. If our ancestors were able to survive accidents, infections and childbirth, their longevity was similar to that of the modern human, but without many of the chronic degenerative diseases that affect us now. Another reason for this renewed interest in the Paleolithic diet is the disparity between how our bodies have evolved over hundreds of thousands of years and the radical shift in our diet in the last few hundred years. Nature evolves, but does so relatively slowly, and our Paleolithic bodies have not caught up with the effects of the modern diet. The final factor in support of the Paleolithic diet is the enormous weight of epidemiological evidence that suggests that chronic degenerative disease, which is the hallmark of industrialized society, has its basis in the consumption of a nutrient-deficient and increasingly toxic diet. This nutrient deficiency can be positively correlated with the consumption of a highly refined diet, where foods have been stripped of their nutrient content to make them more palatable, easier to process, lengthen shelf life, and even to stimulate impulse purchasing (such as candy bars or chips). In his landmark book *Nutrition and Physical Degeneration*, Dr. Weston Price observed that the death rate from cardiovascular disease in the U.S. had increased by 86.9%, from 1900 to 1934. As researchers have indicated, these dramatic changes coincided with the widespread introduction of refined carbohydrates, processed vegetable oils, industrially-produced animal products, and the demineralization of the soil. Since that time, heart disease has become the leading cause of death in North America, when a mere 100 years ago it was more or less an "exotic" condition.

Perhaps the greatest weight of evidence for the efficacy of the Paleolithic diet, in allegorical terms, is the biblical story of Cain and Abel, the first children of Adam and Eve. Cain was a tiller of the soil, whereas his brother Abel was a shepherd. In this story Cain represents the advent of a sedentary, agricultural-based civilization, in preference to the ancient nomadic hunter-gatherer society represented by Abel. In the Genesis story both Cain and Abel offer the fruit of their labours to God. The bible recounts that Abel's offering of the flesh and fat of his flock is preferred by God to the fruit of the ground obtained from Cain's toil. In a jealous rage Cain slays Abel, a biblical allusion to the growing influence and eventual supremacy of an agricultural-based society. God then curses Cain, and tells him that he shall be forever a fugitive and a vagabond upon the

Earth, never to receive the fullness of the Earth's strength. In light of recent archeological and epidemiological evidence that indicates the modern agricultural diet is essentially nutrient deficient, this latter prophecy is particularly germane.

In traditional hunter-gatherer societies the diet was dependent upon the seasons. In spring and summer the diet was focused on wild plant foods, complemented by smaller amounts of wild animal protein. In fall and winter however, the diet became much more dependent upon animal protein. The kinds of wild plants consumed by our Paleolithic ancestors are hardly comparable to modern, hybridized vegetables. For the most part the vegetation consumed by our ancestors was far more nutrient dense and contained less in the way of simple sugars. Compared to the modern diet, the Paleolithic diet consisted of:

Half the fat
Two to three times the protein
Minimal grain consumption
No refined sugar
No refined carbohydrates
No or minimal alcohol
Twice the calcium
One-sixth the salt
Two or three times the potassium
Four times the Vitamin C
Twice the fiber
Higher levels of B-complex vitamins
Higher levels of both macro and trace minerals.

The diet of the early hominids was most likely vegetarian-based, with the addition of high protein foods such as insects. About 2.5 million years ago however, animal foods began to occupy an increasingly prominent place in our ancestor's diet. Changes to our physiology, such as decreased molar size, smaller jaws, and sharpened incisors all suggest a greater emphasis on foods requiring less grinding and more tearing, such as meat. The degree to which meat dominated the Paleolithic diet was most likely a reflection of the availability of plant-based foods that could be easily gathered, and thus some peoples, particularly those native to tropical India, China and Africa, may have a greater tolerance to vegetarian-based foods.

What are the benefits of the Paleolithic diet?

As the Paleolithic diet is in many ways far more appropriate to our physiology than is the modern agricultural diet, it can be used in the treatment of a wide variety of disorders. It is a diet that has a very low allergic potential, and thus patients with food sensitivities and allergies can experience a lessening of symptoms when they have been on this diet for as little as a week. With appropriate treatment this kind of diet can be very helpful in modulating the activity of **autoimmune disorders** such as **multiple sclerosis** and **rheumatoid arthritis**. In the treatment of **chronic digestive disorders** such as **irritable bowel syndrome** and **Crohn's disease**, the Paleolithic diet can be very helpful to lessen the reactivity of the gastric mucosa. In chronic **candidiasis** the Paleolithic diet, with its absence of refined carbohydrates, can inhibit the growth of the *Candida* fungus, which is dependent upon relatively simple sugars for its survival. Another indication for the Paleolithic diet are the complex of disorders that comprise the **Syndrome X** pattern, including **blood sugar irregularities**, **diabetes**, **hypertension**, and **atherosclerosis**. The Paleolithic diet is also the best diet for First Nations and Aboriginal peoples whose physiologies are even less adapted to the ravages of the post-industrial agricultural diet.

Cultivating a Paleolithic diet

One of the features of the Paleolithic diet is that it typically contained a greater diversity of foods than the modern diet, which translates into an enormous diversity of vitamins, minerals and accessory nutrients. For the most part, people in the West have chosen to reduce the level of diversity in their diet, such that they regularly eat only 5 – 10 foods, such as wheat, dairy, potatoes, pork, beef, carrots, tomatoes, eggs, peanuts and oranges. It is interesting to note that many of these foods have a potent allergenic potential. While it is difficult to entirely replicate the Paleolithic diet, by limiting the consumption of refined carbohydrates and choosing from the broad range of organically-grown produce and free-range animal products, the nutritional basis of the Paleolithic diet can be preserved.

Organically-grown and wild produce, as well as free-range animal products, have been shown to contain a much higher density of nutrients, and while these foods may be more expensive than conventional produce, gram for gram you get more nutrients for your dollar, reducing the need for expensive nutritional supplements.

Animal products

Meat and animal products can be exceptionally useful in controlling blood sugar levels and insulin secretion, proteins are broken down much more slowly and thus release their energy over a longer period of time. Prepared meat products such as bacon and sausage are not recommended however, as they often contain significant amounts of sugar and other sweeteners, as well as carcinogenic additives such as sodium nitrite. **Fish is an excellent source of protein, but unfortunately, is often contaminated with heavy metals such as mercury, and consumption should be limited to once or twice a week.** Acceptable forms of animal protein include:

- wild cold water fish, e.g. salmon, halibut, pike, arctic char, mackerel, sardines, trout, pickerel, smelts, oolichan, herring
- free range organic eggs
- free range organic poultry, e.g. chicken, turkey, duck, partridge, pheasant, quail, emu, ostrich
- free range, grass fed organic beef
- free range, grass fed organic buffalo, elk and venison
- organic lamb, mutton and goat
- wild meats such as venison, elk, caribou, and moose
- homemade, nitrite-free smoked fish or meat jerky

Above-ground vegetables

Above-ground vegetables refer to the vegetative part of the plant that attends to photosynthesis, flowering, and sexual reproduction. Such parts of a plant are typically much lower in carbohydrates that the root or rhizome, and thus better for patients who have problems controlling the effects of elevated blood sugar. Further, the aerial portions of many plants typically contain a broader array of phytochemicals and accessory nutrients than the roots, many of which have been linked with anti-cancer and immunosupportive effects. It is no coincidence that the word 'vegetable' is derived from

the Latin term *vegetus*, meaning 'to live.' So, listen to your mother and eat your vegetables. Good vegetables include:

- •leafy green vegetables, e.g. cabbages, chard, kale, spinach, lettuce, watercress, dandelion greens, beet greens
- •vegetable flowers, e.g. broccoli, artichokes, brussel sprouts, cauliflower
- •stem vegetables, e.g. celery, asparagus, leeks, rhubarb
- •fruiting vegetables, e.g. cucumbers, eggplant, peppers, summer squash, tomatoes
- •sea vegetables, e.g. nori, wakame, hijiki, kombu, dulse, kelp
- •sprouts, e.g. broccoli, onion, garlic, alfalfa, red clover
- •algae, e.g. chlorella, spirulina
- •culinary herbs, e.g. basil, oregano, marjoram, thyme, rosemary, cilantro, mint
- •wild plants (e.g. nettle, fiddleheads, edible fungi)

Fruits

Fruits are a good source of a wide variety of vitamins and phytonutrients, but are also quite high in sugar and thus should be avoided or consumed only in small amounts, and **in season** (e.g. summer). Patients with diabetes, candidiasis, Syndrome X, and hypoglycemia should probably avoid most fruits altogether, unless directed otherwise. Sweet tropical fruits should be avoided because of their high sugar content. Acceptable fresh fruits include:

- •apples
- •berry fruits (e.g. blueberries, currants, raspberries, saskatoons)
- •peaches, plums, apricots
- •cherries
- •strawberries
- •half-sweet tropical fruits: guava, passionfruit, half-ripe mango, fresh coconut

Roots and tubers

Roots and tubers are the storage parts of a plant, where energy is stored as long chains of carbohydrates to support the plant in winter and non-vegetative periods. Typically, starchy foods should be eaten in smaller amounts and preferably in combination with some kind of fat (e.g. butter) to slow absorption and stabilize blood sugar. Historically, our Paleolithic ancestors consumed roots and tubers in their diet, but these typically bitter and gnarly wild roots cannot be compared to the sweet, hybridized versions commonly consumed today. **Diabetics and those patients on a weight loss program should avoid very starchy vegetables like potatoes, carrots, sweet potatoes, yams, taro, cassava, well-cooked onions, parsnips, beets, and winter squash.** Roots and tubers however are typically excellent sources of indigestible fiber that help support the normal microbial flora of the intestinal tract, especially so if the skins and peels are eaten. Thus some patients who suffer from constipation or candidiasis (yeast syndrome) may require a larger proportion of these foods in their diet until the ecological equilibrium of the gut is restored. The best roots and tubers include:

- •burdock root
- •daikon, radish, turnip, rutabaga, beets
- •onion, garlic, ginger

•most edible wild roots

Fats and oils

The benefits of a high fat diet have been clearly established by researchers, but this benefit is dependent upon the kinds of fats that are consumed. In some cases increasing the intake of fat upwards of 40% of the total caloric intake can be very helpful to stabilize blood sugars and insulin levels in diabetics on dialysis. **It is important to avoid both hydrogenated oils and transfatty acids, as the consumption of these fats have been shown to promote a wide range of diseases, including cancer.** This includes margarine, oils added to packaged foods, blackened meat from high heat broiling, and any vegetable oil that is sold in a clear container without refrigeration. Olive oil is the exception to this rule. Some common cooking oils have been shown to be excessively toxic, or have been genetically-modified, such as canola oil. Acceptable fats and oils include:

•organic ghee (medium-high heat cooking)
•extra virgin coconut oil (not copra oil) (medium-high heat cooking)
•organic butter (low-medium heat cooking)
•extra virgin olive oil (low-medium heat cooking)
•extra virgin sesame oil (low-medium heat cooking)
•cold-pressed, extra-virgin vegetable oils, never used for cooking (e.g. pumpkin seed oil, flax oil, walnut oil, hemp oil)
•fish oils (e.g. wild salmon oil, halibut oil, cod liver oil)

Legumes

Although they cannot be considered to be a true component of the Paleolithic diet, some legumes are acceptable foods when eaten in small amounts, with other fatty foods. Consumed in such amounts legumes will not raise blood sugar levels excessively, although some legumes such as fava beans are exceptionally starchy and should be avoided. On the negative side, legumes have been shown to contain potentially toxic or health damaging constituents such as lectins, phytates, and protease inhibitors. Some legumes such as soy are also very common in our diet, and many people are allergic or have hidden sensitivities to soy. Further, much of the soy products on the market are genetically modified, and there are serious questions about the safety of such foods. Therefore, only purchase soy products made with organically grown soy beans.

On the plus side, some legumes are a good source of protein and fiber, helping to stabilize blood sugar and promote a healthy gut flora. Some legumes, such as soy have been shown to have antitumor activities, and may assist in menopausal symptoms by having a weak estrogenic activity. Legumes should never be consumed raw, and are best prepared by cooking them with warming spices such as ginger, cumin and garlic to counteract their flatulent-causing properties. The best legume products are those that have been fermented, like the Japanese *natto*, but their distinct taste and texture may make them ill-suited to the Western palate. Strictly speaking however, **legumes are not a Paleolithic food**.

Grains and cereals

Perhaps the greatest difference between the Paleolithic and agricultural diet is the consumption of grains and cereals. Although grains and cereals are really just tiny seeds, to consume them in any significant quantity they must be cultivated on a large scale, and as such, were never consumed in any great quantity by our hunter-gatherer Paleolithic ancestors. Therapeutically, grains and cereals are restricted in conditions such as diabetes and Syndrome X as their exceptionally starchy nature can promote blood sugar irregularities. This includes all cereals and grains, including those sometimes thought of as healthy such as brown rice, wild rice and millet. Grains and cereals also contain phytic acid, a chemical that binds to minerals in the digestive tract and inhibits their absorption. Traditional measures such as toasting the cereal or soaking it in an acid medium such lime juice can be helpful, as these processes help to destroy the phytic acid.

Some cereals, such as **wheat, corn, rye, barley** and **oats**, also contain a protein called gluten. Gluten is very difficult to digest, and for an increasing number of people in our society may promote gastrointestinal inflammation. At the extreme end of this immune response are celiacs, people who lack the enzymes necessary to digest the gliadin fraction of gluten protein. Gluten allergies are the second most common food allergy after cow's milk, and can manifest in rather obvious ways such as irritable bowel syndrome, or in a more discrete fashion, giving rise to depression and fatigue, and can worsen pre-existing allergies such as hayfever.). **It is important to emphasize that any kind of flour product such as breads and pasta are strictly prohibited in the Paleolithic diet**. **Furthermore, because these foods have a high antigenic potential they are strictly avoided in autoimmune diseases such as multiple sclerosis and rheumatoid arthritis.** Bearing in mind the pitfalls of their regular consumption, the following whole grain cereals may be acceptable in otherwise healthy individuals, provided they are eaten in moderation, toasted or soaked overnight before hand, and are eaten with some kind of fat (e.g. butter or olive oil:

- amaranth
- brown rice
- buckwheat
- quinoa
- millet
- wild rice

Dairy Products

The domestication of ruminative animals such as cows were another feature of the agricultural revolution. Although milk is relatively high in protein, it also contains large amounts of the simple sugar lactose that can raise blood sugar rapidly. Further, there is a significant amount of epidemiological evidence that links the consumption of dairy with the chronic degenerative diseases that plague agricultural societies. Many practitioners have noticed that when dairy is eliminated from the diet patients no longer complain of symptoms such as chronic sinus congestion, eczema, digestive bloating, or arthritis. Although calcium is often proffered as a reason to consume milk there are many other excellent plant-based sources of calcium that are easily assimilated such as almonds, leafy green vegetables, and sea vegetables. Due to their potentially antigenic effects, **dairy products are not recommended in the Paleolithic diet.**

Paleolithic diet ratios

Taking all of the information from above, let's look at how much of each category of food you should try to emphasize in your diet. The following dietary ratios are based not on caloric intake, but rather, a rough estimate of the volume of each food group you eat on a daily basis. In other words, imagine all these foods sitting on a plate at a meal, and the comparative volumes they comprise while sitting on the plate. For a variety of reasons, including the fact that the scientific methods used to determine the caloric content of different foods doesn't equate with real-time metabolic processes, we shall discard the concern over calories for now. Anyway, most people don't eat this way: they eat with their senses, not with a calorimeter or the rigorous application of calorie tables. Generally speaking, eat until your hunger is satisfied, but not until you are "stuffed." In Ayurvedic medicine we are told to eat to "one-half" our stomach volume at each meal, moistened with 1/4 part water, leaving 1/4 part of your stomach to accommodate gastric churning.

Animal products……30 %
Vegetables (above ground).……...……40 %
Roots and Tubers…..……...……..10-15 %
Fruits……...…..10-15 %
Fats and Oils……5 %

For autoimmune diseases such as rheumatoid arthritis, inflammatory bowel disease and multiple sclerosis, foods such as grains, cereals, legumes and dairy should be strictly avoided, but otherwise, carbohydrate-rich foods such as root vegetables and seasonal fruit can be consumed in moderation without harm.

Although the Paleolithic diet may seem restrictive when compared to the typical Western diet, many people find that the immediate health benefits out-weigh the inconvenience. Please note that it may take several weeks or months for the effects of the diet to take effect, due to a "ripple effect" of consuming immunoreactive foods prior to making dietary changes.

On the issue of salt: While salt (sodium chloride) is often restricted in patients with cardiovascular disease, unrefined sea salt ('celtic salt') and rock salt ('saindhava', or 'pink salt') should be considered to be an important part of the diet. These salts are rich in a variety of minerals, including potassium, organic sulfur, calcium, and magnesium, all of which are of benefit in cardiovascular disease.

On the issue of food combining: Food combining is often an effective strategy to relieve chronic digestive complaints. Generally, avoid mixing carbohydrates with animal proteins, and either of these with fruit. Carbohydrates and proteins are digested in chemically opposite mediums; fruits are comprised of relatively simple sugars that will quickly ferment if consumed with foods such as grains or proteins that take mush longer to digest. In some folks food combining is not as important, but should be adopted in any therapeutic regimen, to give ease to the digestive apparatus. Dairy products should not be combined with any food group as it is a whole food in and of itself, as well as the fact that lactose temporarily increases the permeability of the intestine to other substances.

Resources - Books

Nourishing Traditions, by Mary G. Enig, Ph.D. and Sally Fallon.
Neanderthin, by Ray Audette, Troy Gilchrist, Raymond V. Audette, and Michael R. Eades
Dr. Bernstein's Diabetes Solution, by Dr. Richard Bernstein
Nutrition and Physical Degeneration, by Dr. Weston Price
The Healing Power of Minerals, by Paul Bergner
The Paleo Diet, by Loren Cordain
The Paleolithic Prescription, by S. Boyd, M.D. Eaton, Marjorie Shostak, and Melvin Konner
The Garden of Eating, by Rachel Albert-Matesz and Don Matesz

Resources - WWW

http://www.paleofood.com/
http://www.direct-ms.org/booklets/Direct-MS_Cookbook.pdf
http://www.nerdheaven.dk/~jevk/paleo_intro.php